



## WHAT IS TABEDE?

TABEDE is a 3 years project funded by the European Commission that aims to allow all buildings equipped with Energy Management Systems to integrate energy grid demand response schemes, independently of communication standards.

## DEMO SITES



Smart house in Cardiff, UK



Industrial campus in Grenoble, FR



Residential building in Bergamo, IT



## OBJECTIVES

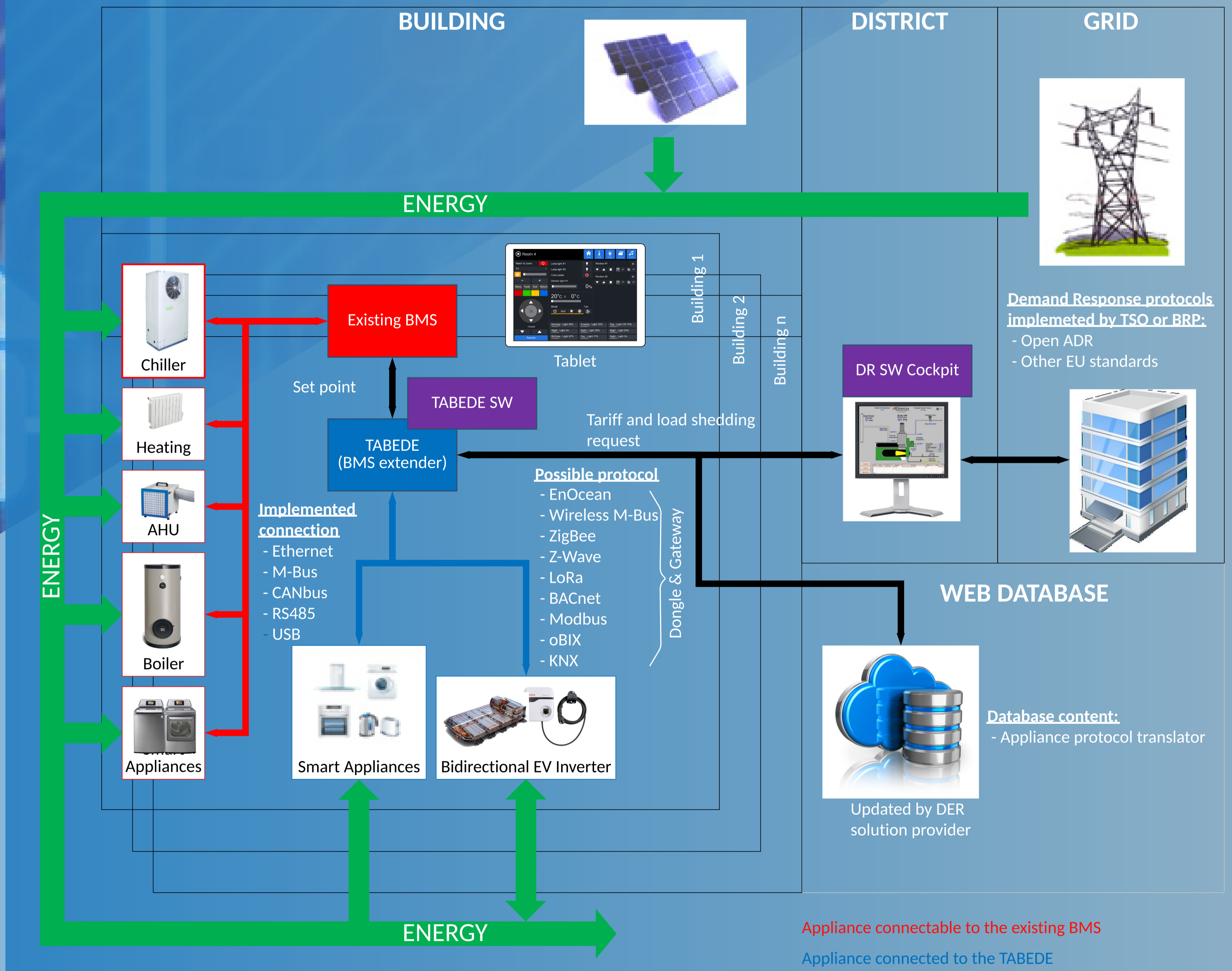
**Objective 1:**  
Develop an interoperable, DR-ready BMS extender that is compatible with at least 90% devices and systems - to integrate with existing BMSs, additional appliances and sensors currently deployed in buildings, and to the grid or campus like management systems - utilising the corresponding APIs, protocols, and standards.

**Objective 2:**  
Maximize building flexibility to improve building demand response capabilities up to a factor of 2, by:  
- Integrating building inertia as a flexible load through advanced energy control schemes (Model Predictive Control)  
- Exposing all building flexible loads for demand response  
- Ensuring beneficial impact (cost and energy saving) for building stakeholders.

**Objective 3:**  
Enable standards-based semantic exchange of information between secure web database of home appliances, and BMS and smart-grid - for seamless system integration, allowing:  
- The identification of connected hardware (BMS), devices and appliances for flexibility assessment  
- On-demand, device-specific update of interfaces, and DR operating protocols and signals  
- Specific interface encapsulation with an MQTT client and existing BMS or appliance networks  
- Context-aware communication with smart grid.

**Objective 4:**  
Demonstrate TABEDE technologies and functionalities through extensive simulation-based testing, and prove the feasibility of the proposed solutions through deployment of TABEDE on three test sites that are representative of EU conditions in terms of climate, building occupancy and energy infrastructure.

## TABEDE SOLUTION



Appliance connectable to the existing BMS  
Appliance connected to the TABEDE



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